Chemigating Kerb® in Lettuce

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Applying Kerb® 50-W herbicide through overhead sprinklers has become commonplace during the past few seasons in the low desert lettuce production region of Arizona and southern California, as a result of section 24(c) registrations. Numerous studies were established in Yuma, AZ from 2002 to 2005 and at Five Points, CA in 2004 and 2005. In Yuma County, field trials were conducted in 2002 and 2003 to compare efficacy and crop safety of aerially-applied and sprinkler-applied Kerb. Side-by-side plots were established at five locations. Kerb was applied at rates of 0.6 to 0.85 lb a.i./acre. Individual plots were a minimum of 10 acres in size. Correctly timing the Kerb chemigation to match weed seed germination was one of the most critical factors in obtaining acceptable weed control. To minimize lettuce phytotoxicity and to maximize efficacy, applying the correct amount of water after chemigation was also crucial. In general, applying 0.4-0.6 in of water after chemigating provided optimal results. In 2004, two large-plot replicated studies were conducted in Yuma to determine the optimal chemical injection duration and post-application incorporation water volume necessary to obtain the highest level of weed control. The treatments in both studies were applied four days after sprinkler irrigations were initiated. In the first study, 0.65 lb a.i./A of pronamide was injected into the sprinkler irrigation stream for three different durations; 30-, 60- or 90-min. These durations correspond to 0.05-, 0.1- and 0.15-in water. Following injection, all three treatments received 0.4-in water for incorporation. In the second study, 0.65 lb a.i./A of pronamide was chemigated for 60-min, followed by incorporation water volumes of 0-, 0.4-, 0.8- or 1.2-in. Prior to establishing the two studies, plots were overseeded with giant Indian mustard seeds as an indicator weed. Both experiments included an untreated check. Forty-one days after Kerb application, weed control was determined by removing all weeds in a 10-ft length along the bed top between two lettuce seed lines, and measuring fresh weights. In the injection duration study, the highest level of weed control was achieved with the 90-min injection. The 30-min treatment was no different than the untreated check, while the 60-min duration provided measurable control. In the post-application incorporation study, there were no differences detected in weed control among the various water volumes. However, there was a distinct trend suggesting that weed control decreased with increasing volumes of incorporation water. The best performance came from the 0- and 0.4-in treatments, while the poorest came from the 1.2-in treatment. At Five Points in 2004, Kerb applied by chemigation at 0.75 lb a.i./A was compared to Kerb applied

in 5-in bands by ground at 1.5 lb a.i./A in the treated zone. Because the chemigation treatments were broadcast applications of the chemical, those treatments resulted in substantially fewer weeds within the plots than the band treatments. However, comparing 4-in wide zones along the lettuce seed lines, both treatments provided excellent control of common purslane and grass weeds. With pigweeds and shepherdspurse, numerical trends favored the chemigation treatments, but significant differences were not detected. Total savings to the grower in the chemigation treatments would be $139/A, compared to the ground treatments.

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Kerb 50-W is a Federally Restricted Use Pesticide

Table 3. Nutsedge control at Thermal, CA.

Product [1]	Rate	Nutsedge densities (no./A) [2]	
		Mar. 2005	Oct. 2005
EPTC	7 pts	210	6163 b
Metam sodium fb EPTC	60 GPA fb 7 pts	110	11851 a
Telone C35 fb EPTC	20.5 GPA fb 7 pts	14	3661 b
Telone C35 fb EPTC	26 GPA fb 7 pts	45	4986 b

[1] Followed by (fb) means a sequential application.

[2] Data within a column sharing the same letter(s) were not different at P = 0.05.

LITERATURE CITED

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